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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/700,039 | 11/03/2003 | George P. Klonis | 15827-026001 | 3397 |
| 26231 | 7590 | 04/20/2006 | EXAMINER | |
| FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022 | | | KWON, JOHN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3747 | |

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,039

Applicant(s)

KLONIS ET AL.

Examiner

John T. Kwon

Art Unit

3747

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-35 and 37-48 is/are pending in the application.
- 4a) Of the above claim(s) 40-42, 45 and 46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-35 and 37-39, 43-45, 47, 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 40-42, 45 and 46 (of the housing having an apertured member) are withdrawn from consideration as being directed to a non-elected invention because such limitation was not read on Fig. 1. Claim 45, the limitation of the interchangeable to the apertured member is not read on Fig. 1 thus, the limitation for interchangeable part only is considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 33 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "would be" is vague and indefinite. It is unclear how the supplying voltage is less than the voltage required by the ignition source. It is further unclear which one is less temperature, inside of the cavity or in the combustion chamber.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3747

Claims 29-32, 35, 37-39, 43, 44, 47 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Heintzelman (US 4 123 998).

Claims 29-32, 35, 37-39, 43, 44, 47 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Goto (US 6 209 511).

Claims 29-32, 35, 37-39, 43, 44, 47 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Fisher (US 2 646 782).

Claims 29-32, 35, 37-39, 43, 44, 47 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Meyer (US 1 956 805).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33, 34 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heintzelman (US 4 123 998). Heintzelman discloses a main combustion chamber for receiving a dilute combustion mixture (30) and an auxiliary combustion cavity (28) at least a portion of the dilute combustion mixture from the main combustion chamber through an open end of the auxiliary combustion cavity such that substantially all of the combustion mixture in the auxiliary combustion cavity is the dilute combustion mixture received from the main combustion chamber, the auxiliary combustion cavity being disposed outside of the main combustion chamber, igniting the dilute combustion mixture in the auxiliary combustion cavity with an ignition source

Art Unit: 3747

in the auxiliary combustion cavities the auxiliary combustion cavity sized to substantially protect the ignition source from fluid movement within the combustion chamber and cause at least a portion of the dilute combustion mixture adjacent the ignition source to be substantially quiescent; and igniting at least a portion of the dilute combustion mixture in the main combustion chamber with the ignited dilute combustion mixture from the auxiliary combustion cavity. A spark plug is located in a central axis of the auxiliary combustion chamber cavity and mounted on a removable carrier housing means (28, 34). The prior art reference is in silent about the supplying the source of the voltage, nor the temperature of the ignition source. However, it would be an obvious result because the less voltage would required for the ignition of the smaller area/auxiliary cavity as well as the temperature would be lower in the auxiliary cavity than the main combustion engine. Claim 45, regarding the removable carrier housing can be the interchangeable and it would be within an ability of one of ordinary skilled in the art.

Response to Arguments

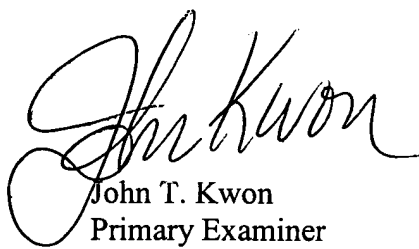
Applicant's arguments filed March 2, 2006 have been fully considered but they are not persuasive. The issue in this application is whether the sized to create at least a portion of the dilute combustion mixture adjacent the ignition source to be substantially quiescent. The examiner took the position that such a functional limitation would be inherent since two inventions are similar in structure. In order to overcome the rejection (the functional inherency), the applicant has a burden to prove the differences such as structurally.

Art Unit: 3747

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John T. Kwon whose telephone number is (571) 272-4846. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on (571) 272-4856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John T. Kwon
Primary Examiner
Art Unit 3747

April 13, 2006